Weekly Report 3

Group Nr. 10

1 Weekly Progress

This week, we have implemented our own block matching algorithm. We also compare different combinations to calculate the fundamental matrix (e.g. SIFT/ORB + FLANN/Brute-Force + RANSAC/LMEDS) and started reconstructing a mesh from a point cloud.

- Research of block matching methods and algorithms and implementing them in Python (Siyuan, Atilla)
- Converting the algorithms into C++ code (Benjamin)
- Initial mesh generation from point cloud (Jiesheng)

2 Problems

Depending on the parameters used, the block matching algorithms in some cases are not able to find disparity information, even in textured regions; or they produce very noisy disparity maps. Also, there are some issues concerning the rectification of the input images, which then leads to poor disparity map generation.

3 Results

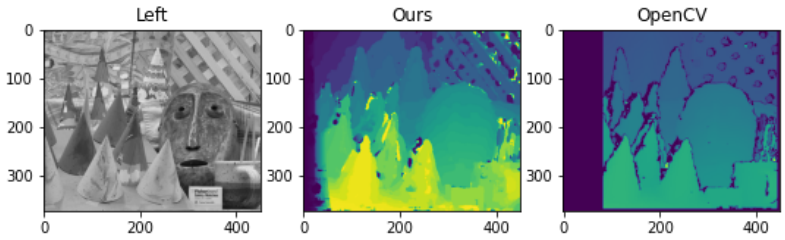

Figure 1: The left two images are rectified images from two different view. The image on the right is the disparity computed using OpenCV.

4 Plan

For the next week, we aim to obtain a point cloud from the disparity map and then reconstruct a mesh from this information. We also plan to solve the problems concerning image rectification.